International Journal of
PARALLEL PROGRAMMING

Vol. 30, Number 1 February 2002

CONTENTS

Parallel Approaches for Singular Value Decomposition as Applied to Robotic Manipulator Jacobians 1
Tracy D. Braun, Renard Ulrey, Anthony A. Maciejewski, and Howard Jay Siegel

New Shape Analysis and Interprocedural Techniques for Automatic Parallelization of C Codes 37
Francisco Corbera, Rafael Asenjo, and Emilio Zapata

International Journal of
PARALLEL PROGRAMMING

Vol. 30, Number 2 April 2002

CONTENTS

Automatic Intra-Register Vectorization for the Intel Architecture 65
Aart J. C. Bik, Milind Girkar, Paul M. Grey, and Xinmin Tian

Component-Based Derivation of a Parallel Stiff ODE Solver Implemented in a Cluster of Computers 99
Jose M. Mantas Ruiz, Julio Ortega Lopera, and Jose A. Carrillo de la Plata

International Journal of
PARALLEL PROGRAMMING

Vol. 30, Number 3 June 2002

CONTENTS

Control Flow Regeneration for Software Pipelined Loops with Conditions 149
Dragan Milicev and Zoran Jovanovic

Achieving Scalable Locality with Time Skewing 181
David Wonnacott

International Journal of
PARALLEL PROGRAMMING

Vol. 30, Number 4 **August 2002**

CONTENTS

Special Issue: 15th International Conference on Supercomputing

Guest Editor: Alex Veidenbaum

Guest Editor's Introduction 223
Alex Veidenbaum

Runtime vs. Manual Data Distribution for Architecture-Agnostic Shared-Memory Programming Models 225
Dimitrios S. Nikolopoulos, Eduard Ayguadé, and Constantine D. Polychronopoulos

Efficiently Adapting Java Binaries in Limited Memory Contexts 257
Pramod G. Joisha, Samuel P. Midkiff, Mauricio J. Serrano, and Manish Gupta

Reducing and Vectorizing Procedures for Telescoping Languages 291
Arun Chauhan and Ken Kennedy

Demonstrating the Scalability of a Molecular Dynamics Application on a Petaflops Computer 317
George S. Almasi, Călin Caşcaval, José G. Castaños, Monty Denneau, Wilm Donath, Maria Eleftheriou, Mark Giampapa, Howard Ho, Derek Lieber, José E. Moreira, Dennis Newns, Marc Snir, and Henry S. Warren, Jr.

International Journal of
PARALLEL PROGRAMMING

Vol. 30, Number 5 October 2002

CONTENTS

Modeling Multithreaded Applications Using Petri Nets 353
Krishna M. Kavi, Alireza Moshtaghi, and Deng-jyi Chen

Software Trace Cache for Commercial Applications 373
Alex Ramirez, Josep Ll. Larriba-Pey, Carlos Navarro, Mateo Valero, and Josep Torrellas

International Journal of
PARALLEL PROGRAMMING

Vol. 30, Number 6 December 2002

CONTENTS

Backtracking-Based Instruction Scheduling to Fill Branch Delay Slots 397
Ivan D. Baev, Waleed M. Meleis, and Santosh G. Abraham

Railway Computation for Infinite Linear Systems 419
Paola Favati, Grazia Lotti, Ornella Menchi, and Francesco Romani